Preserving America's Advantage
In Satellite Technology

Summary

Satellites are essential tools for modern military operations and are a crucial force multiplier. Satellites are also essential to U.S. and global economies, in communications, entertainment and, increasingly, remote sensing. The commercial industry that makes these satellites is a vital partner for the military and for America's high-tech economy and, as Defense purchases have declined over the last decade, the commercial market has become the driving force for innovation.

The satellite industry has been shaped by the same global forces that have changed other industries. The satellite industry has grown increasingly international in the last decade. The market for satellites is global. International cooperation in satellite manufacturing is common and satellite manufacturing depends on both foreign and domestic suppliers, given global specialization for components, technology and systems. There is marked commonality between civil and military products, with new technologies more likely to emerge first on the civil side. These trends mean that self-sufficiency is not a viable strategy for leadership in space, as an isolated national industry will lack access to cutting-edge technologies and to the markets that will sustain its ability to develop and use such technologies.

Given the importance of space and satellites for the United States, do current policies and regulations governing U.S. participation in the global market harm or help our national security? After two years of legislatively mandated regulations that make the U.S. satellite industry, alone in the world, an arms manufacturer, is it time to reconsider how best to maintain leadership in a global market?

There is considerable evidence that the current U.S. approach toward the regulation of satellite industry exports is damaging national security. A dramatic decline in satellite-related exports in the face of strong foreign competition threatens to erode the U.S. technological advantage. The core of this loss of competitiveness is an outdated view of the satellite industry and outdated export control policies to match.

If the United States is to avoid an expensive erosion of its leadership position in the satellite market, a new national strategy must be developed that accounts for both today's commercial and technological realities and national security interests and challenges. CSIS proposes to develop such a strategy by (1) identifying the global context for space and satellites in which the United States must operate; (2) propose new regulatory approaches to managing risk in this global context, and (3) develop a longer-range strategy to ensure the vitality of America's satellite production capabilities. The study will be conducted by a Commission consisting of representatives from government, the defense community, academia and the satellite industry and its conclusions and recommendations that result form our study will be published in a CSIS report and disseminated to the policy community.

Implications for U.S. National Security

Since late 1998, when Congress included a requirement in the National Defense Authorization Act to shift commercial satellite export licensing from the Commerce Department to the State Department, exports of satellites and satellite products and technology have plummeted. One estimate noted that in the first year after the transfer to the State Department, commercial satellite exports (and exports of satellite components) fell by 40 percent.

Apart from the immediate commercial and economic damage, continued deterioration of the satellite industry has serious implications for U.S. national security. Our military forces depend on a healthy private sector to build the satellites and develop the innovations they need. We are on a path that leads to U.S. forces no longer having access to the most advanced technologies. This is because the United States has adopted an approach to export controls that is designed to withhold critical technologies not only to potential opponents but to allies as well. In the process of pursuing technology denial, it has undercut systematically the competitiveness of the industry:

- The regulatory burden of controlling all satellite related activities as a munition threatens to become unmanageable, and imposes serious delays (and risks) for U.S. manufacturers.
- Export licenses to U.S. firms are often subject to performance restrictions that seriously limit the commercial viability of the project. Foreign satellite manufacturers do not face the same restrictions.
- Current export controls limit the ability of U.S. firms to compete in the global market for satellite components and technology. In the face of a more restrictive U.S. policy, several European aerospace companies, many of whom have histories of working with the U.S. space industry, are now shifting to foreign suppliers.

These elements have put U.S. firms at a serious disadvantage at a time when the satellite industry relies increasingly on multinational specialization. More fundamentally, they have effectively created a protected world market for foreign competition and provided incentives for foreign firms to move into product markets where the U.S. now has the lead. By preventing U.S. companies from sharing technology and blocking U.S. companies from fielding superior products, the U.S. government has effectively assured foreign producers a market advantage without corresponding benefit to our security.

Broad restrictions applied to the entire range of satellite technologies allow foreign firms to displace U.S. companies in the global satellite market, and the loss of market share reflects real damage to the U.S. satellite industry and national security. The unwelcome fact is that tighter U.S. export restrictions have not prevented foreign satellite manufacturing capabilities from continuing to advance; instead, they have encouraged the development of new players and new markets abroad.

This problem goes beyond communications satellites. Robust commercial markets now exist for satellite positioning and imagery services. In particular, over the last decade, we have seen the growth of satellite systems providing good quality satellite photos for sale to the public. Radar satellite imagery may soon enter the market. The advent of the commercial remote sensing industry could enhance global stability - through greater transparency - but could result as well in turmoil if we do not adjust and prepare for a world where potential opponents can buy imagery on the open market. Forty years ago, only the U.S. could afford to acquire satellite imagery. Today anyone can buy it over the Internet. Real-time imagery can be obtained for the price of a ground station. The new reality is that technology denial may no longer be the best way to advance our national security and broader national interests.

Objectives for A Study of Satellite Regulation

The United States needs to maintain its national security and to preserve its superiority in satellite technology, but it cannot accomplish those goals by limiting U.S. producers and wishing away growing foreign competition. A new national strategy that recognizes both the realities of the marketplace and the attendant risks to national security. Like it or not, America's armed forces now live in an era of commercially available satellite communications and reconnaissance products. Managing the risks involved requires a sophisticated model of security and regulation that emphasizes keeping U.S. leadership intact. Our goal is to develop a new national strategy for

preserving America's superiority in satellite technology. Working with an integrated Commission consisting of representatives from military, academic, business and government circles, CSIS proposes to undertake the following specific tasks:

- Examine longer-term factors that are affecting the satellite industry;
- Assess implications for U.S. national security and identify how America's armed forces should respond.
- Determine what changes may be required to current regulatory procedures to avoid a significant losses to the satellite industry and preserve U.S. leadership in satellite technology.

As part of this integrated assessment, we expect to examine a number of critical related issues such as:

- levels of sensitivity among satellite technologies;
- the nature and the effect of the growth of international cooperation and partnership in the space industry on satellite policy;
- the possibility of differentiation among recipients and partners of U.S. space technology;
- the national security benefits of a greater U.S. role in the international space market;
- the effect of the growing commercialization and "civilianization" of space outside the United States on satellite policy; and
- how best to manage a strong U.S. space industry and maintain tight restrictions on essential technologies.

Deliverables

CSIS will issue a final report that will provide conclusions and recommendations for moving ahead in a way that best protects our national security. That report will be distributed extensively to the Washington policy community. A particular effort will be made to distribute the final report on Capitol Hill-both to members and to key staffers. CSIS and the Commission will also arrange a series of public briefings and related press events to present the findings of the report.

Why CSIS?

CSIS is a non-profit, bipartisan public policy organization established in 1962 to address international policy issues and to provide policy options and solutions. Over the years, it has grown to be one of the largest organizations of its kind-with a staff of over 190 and some 100 analysts tracking policy issues and developments in countries across the world. Its luminaries include William Brock, Harold Brown, Zbigniew Brzezinski, Carla Hills, Henry Kissinger, Sam Nunn, James Schlesinger, and Brent Scowcroft. The Center is led by President and Chief Executive Officer John J. Hamre, who served as Deputy Secretary of Defense prior to assuming the leadership of CSIS last April.

John Hamre will take a leadership role in the Commission, and therefore will bring to the project his expertise on defense policy, military thinking and export controls. James Lewis, Director of Technology Programs at CSIS, will supervise the project. Lewis has worked extensively with both the satellite industry and relevant agencies, drafted portions of Presidential Decision Document 23 "Foreign Access to Remote Sensing Space Capabilities" while at the Department of State, and developed the 1996 Presidential decision on communications satellites while at the Department of Commerce.

This effort is a logical outgrowth of work that CSIS is doing in the area of export control reform. CSIS is current undertaking three major and closely related initiatives pertaining to export control.

First, it is cooperating with the Stimson Center to examine how the multilateral frameworks on export controls can be strengthened. Second, CSIS is undertaking an effort to look at how the export controls overseen by the Department of State are creating strains in our alliance management and our relations with allies. Part of this effort focuses on the expanding gap between the U.S. and European defense industrial bases. Finally, the Center is doing a detailed analysis of the effect of export controls on information technology. In each of these initiatives, we have brought together a critical mass of policymakers from both Administration and the Congress, policy experts, and others.

More generally, by virtue of its capacity to mobilize relevant groups on pressing issues, CSIS has a solid track record in moving forward deliberative processes of the nature proposed here. It can do the research and assemble the panel of expert practitioners that will enable this study to have policy impact.